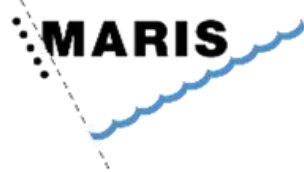


27-29 May 2024 



imdis

International conference on **Marine Data** and Information **Systems**





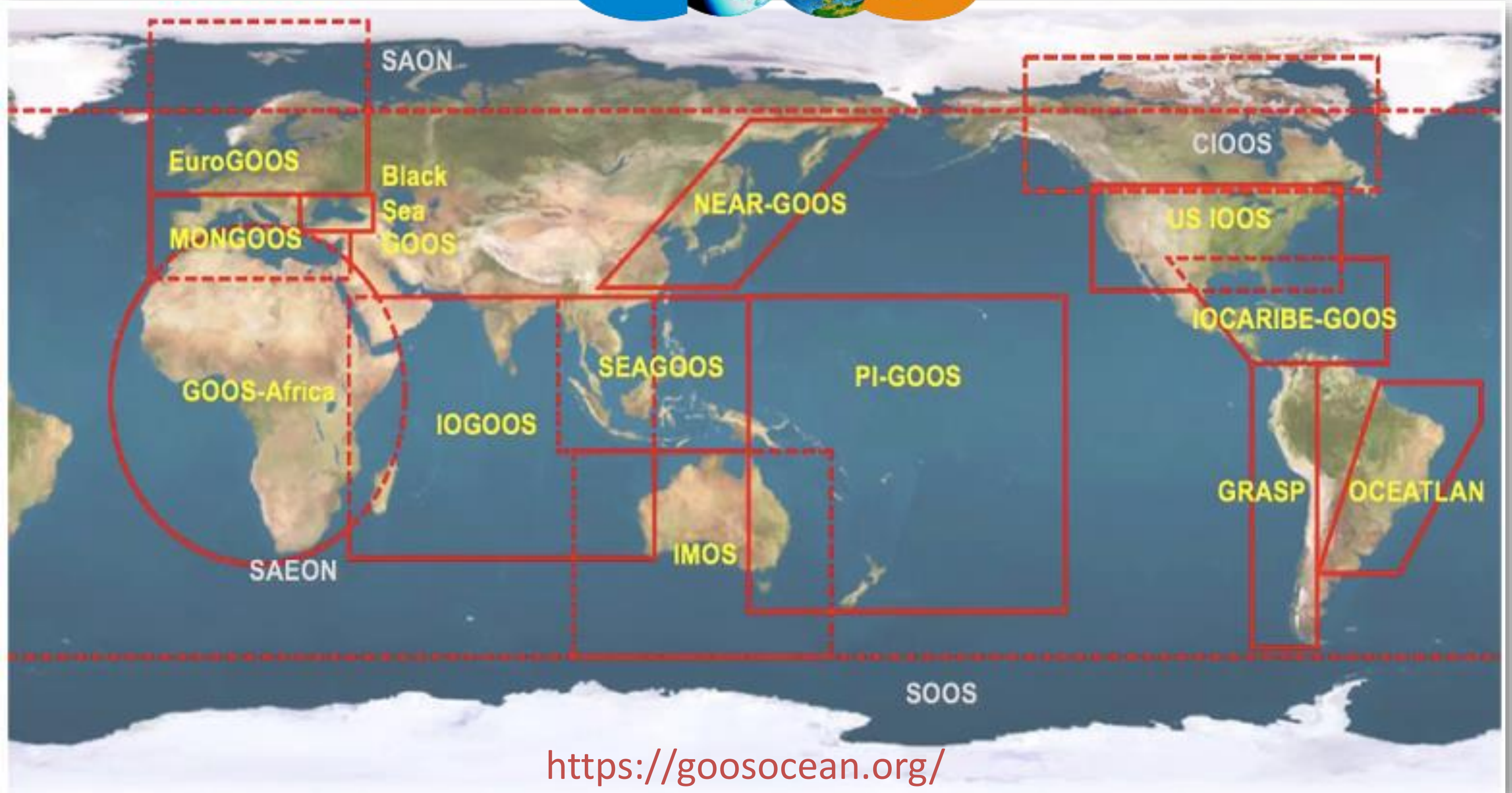
Arctic ROOS

EuroGOOS Arctic Regional
Ocean Observing System

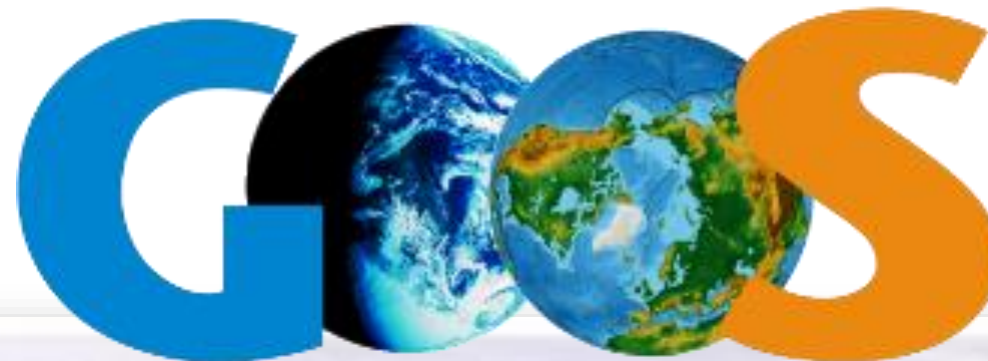
- Towards a pan-Arctic regional alliance

IMDIS 2024, Bergen, Norway

Presenter: Vidar S. Lien (co-chair), Institute of Marine Research

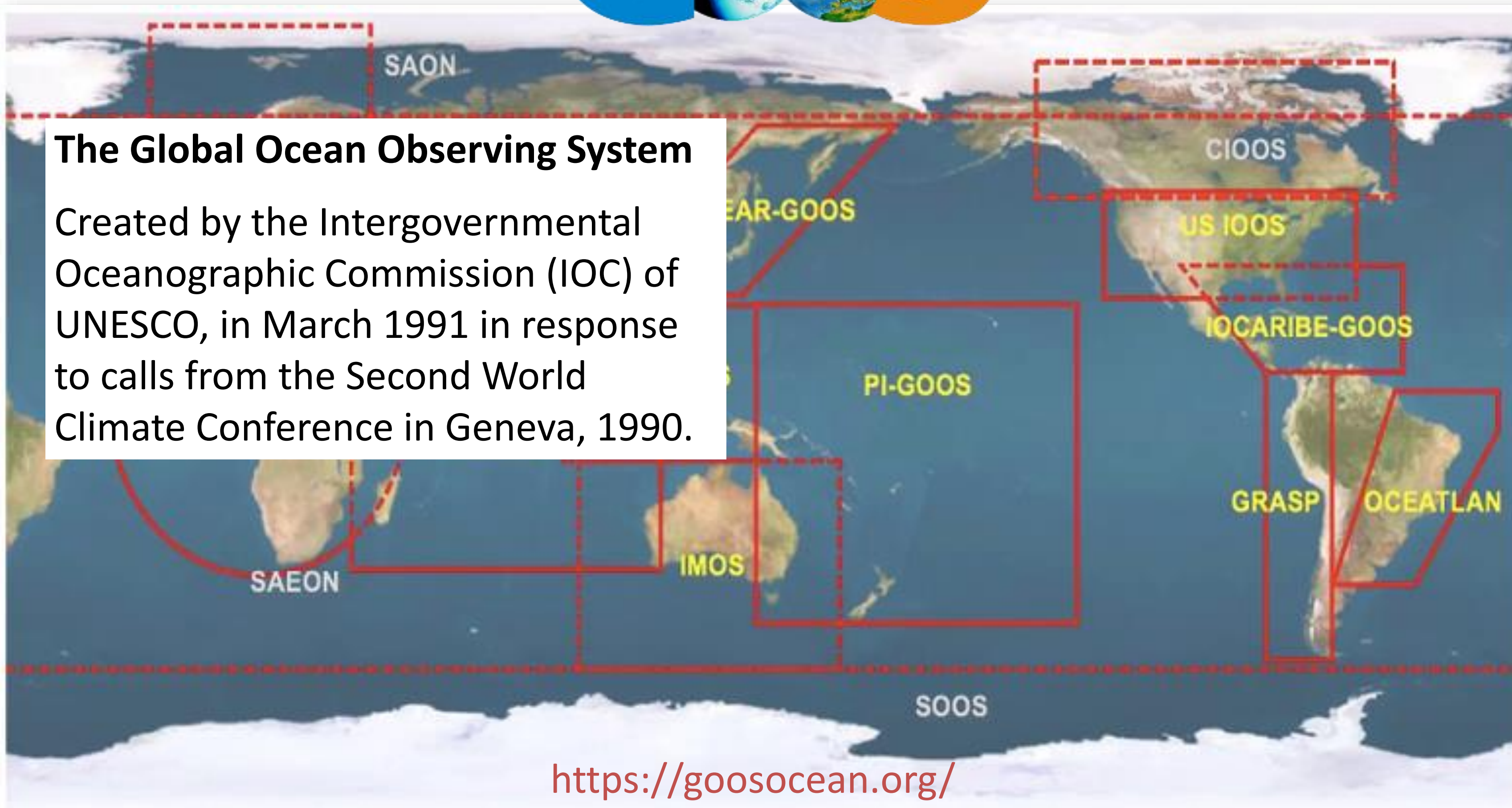


<https://goosocean.org/>



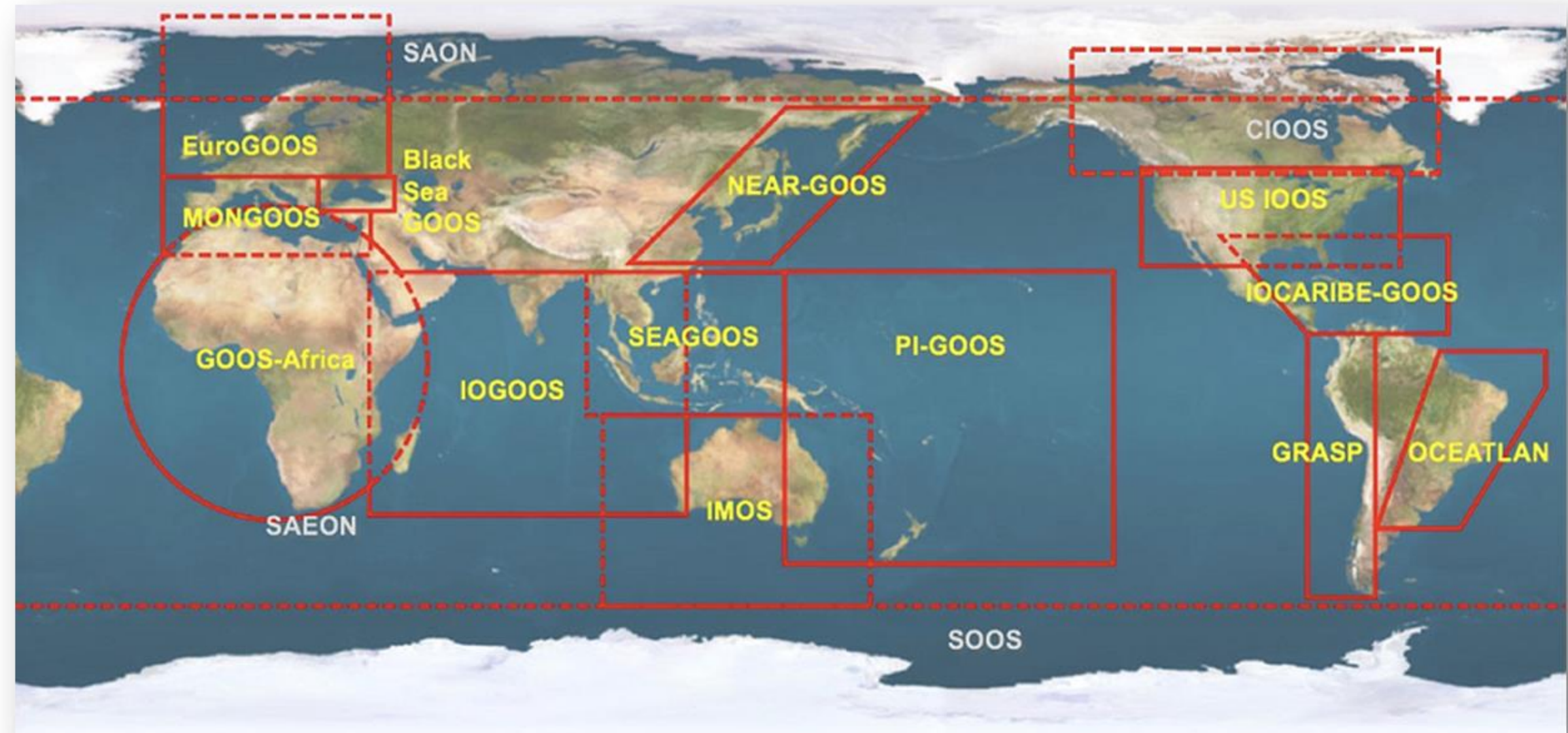
The Global Ocean Observing System

Created by the Intergovernmental Oceanographic Commission (IOC) of UNESCO, in March 1991 in response to calls from the Second World Climate Conference in Geneva, 1990.



<https://goosocean.org/>

EuroGOOS



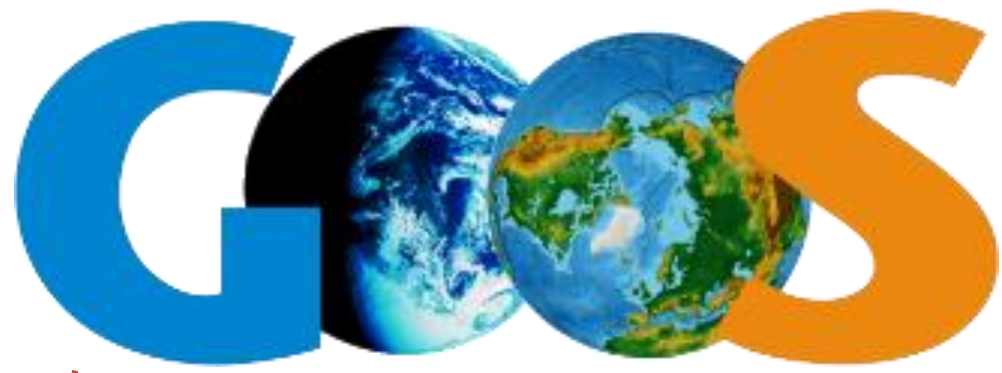
46

Member
Organisations
of EuroGOOS
Association

from **19** countries

- ❖ To improve coordination across the whole European ocean knowledge value chain
- ❖ To identify priorities, enhance cooperation, and promote the benefits of operational oceanography

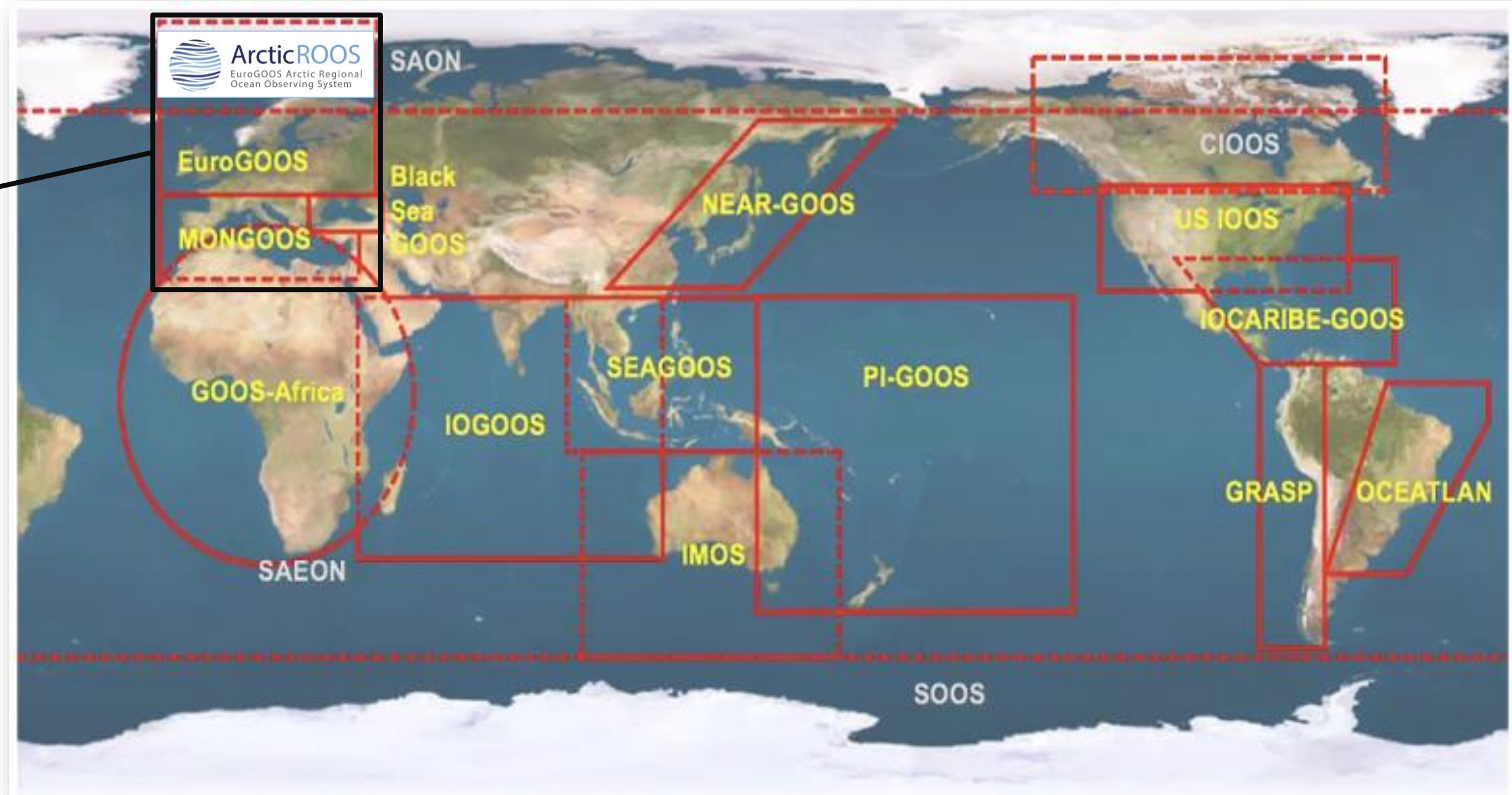
<https://eurogoos.eu/>

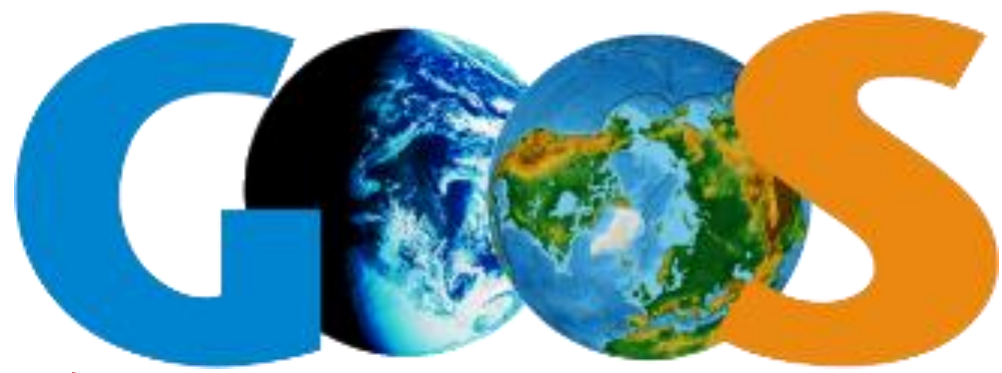


Five **Regional Operational Oceanographic Systems (ROOS)** within EuroGOOS:

- [Arctic ROOS](#),
- Baltic ([BOOS](#))
- North-West Shelf ([NOOS](#))
- Ireland-Biscay-Iberia ([IBI ROOS](#))
- Mediterranean([MonGOOS](#)).

Cooperation also with Black Sea GOOS, in the Black Sea region





Five Regional Operational Oceanographic Systems (ROOS) within EuroGOOS:

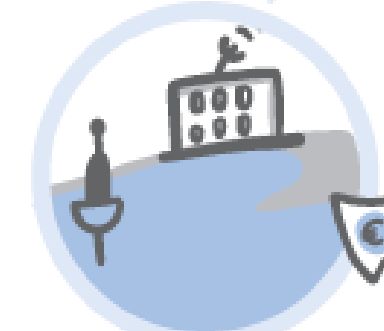
- [Arctic ROOS](#),
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Cooperation also with Black Sea GOOS, in the Black Sea region

OPERATIONAL SERVICES



SUSTAINED DATA COLLECTION



NATIONAL OCEAN OBSERVATIONS AND SERVICES

COORDINATE AND ENHANCE NATIONAL AND REGIONAL EFFORTS



IDENTIFY PRIORITIES FOR EUROPEAN OCEAN OBSERVING

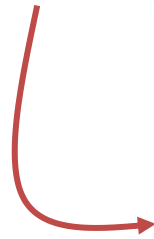
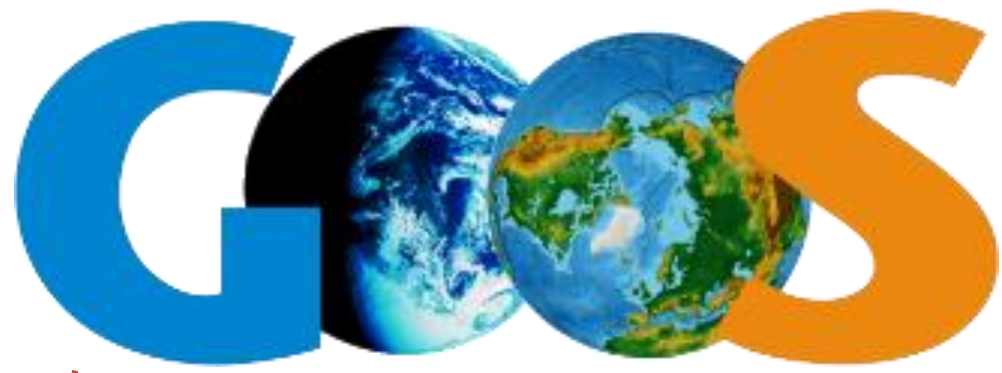
SHARE
UNLOCK

FOSTER COOPERATION

PROMOTE DEVELOPMENT OF AVAILABLE PRODUCTS & SERVICES

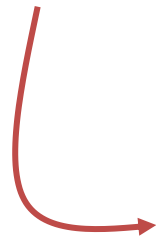


<https://eurogoos.eu/regional-operational-oceanographic-systems/>



EuroGOOS

European Global Ocean
Observing System



ArcticROOS

EuroGOOS Arctic Regional
Ocean Observing System

Arctic ROOS is an open forum for national agencies, research institutes, universities and commercial bodies to inform, share and develop an Arctic Ocean observing system.

Established

2007

Consortium

20 member institutions from
11 European countries

Co-chairs (2023 -)

- Vidar Lien, IMR, Norway
- Anna Nikolopoulos, NPI, Norway

Steering Group

- Manuel Bensi, OGS, Italy
- Agnieszka Beszczynska-Möller, IOPAN, Poland
- Till Rasmussen, DMI, Denmark
- Joseph Nolan, EuroGOOS

Mission

- Integrate and develop European ocean and sea ice monitoring and forecasting activities in the Arctic
- Foster development of automatic real-time observations
- Enhance the development of open-source community ocean, wave and sea-ice models
- Promote and facilitate dissemination of data via the FAIR principles

The scope of co-operation activities extends to areas of operational oceanography such as data and product management, research, product development, service provision as well as education and training.

Arctic ROOS is an open forum for national agencies, research institutes, universities and commercial bodies to inform, share and develop an Arctic Ocean observing system.

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Toward a GOOS Regional Alliance for the Arctic

Why now?

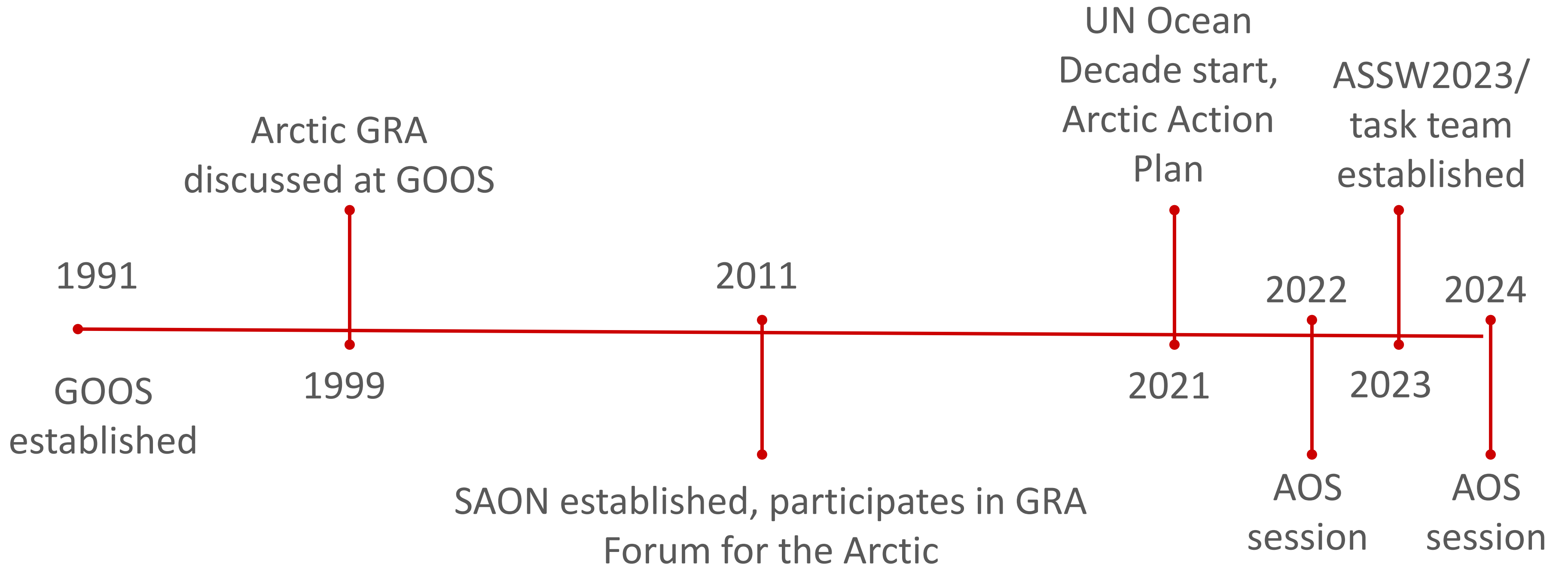
- Increased awareness of the Arctic's role in the climate system
- Severe climate impacts on Arctic communities
- Accelerating human activity
- Many existing initiatives and programs for observing the Arctic marine environment
- Coordination at national level, but broader cooperation challenging due to complex, heterogeneous environment
- UN Decade of Ocean Science may provide opportunities to advance broad coordination efforts
- Identified as a priority action by the G7 Future of Seas and Oceans Initiative

Arctic GRA Background and Rationale

- Sustaining Arctic Observing Networks (SAON) has represented the Arctic in the GRA Forum – the Arctic does not have formal representation within GOOS.
- Sustained Arctic observing efforts would benefit from a stable, overarching framework to facilitate planning, coordination and collaboration.
- Connect existing efforts with Global Ocean Observing Systems (e.g. GOOS, POGO, GEO Blue Planet) to leverage existing structures and resources.
- Encourage existing GOOS networks to extend coverage into Arctic.
- Fundamental engagement with rights holders and stakeholders – observing system conceptualization, design and implementation – align activities with needs.
- Strengthen Arctic representation in international bodies, planning and advocacy in international and national forums.

Facilitate, coordinate, support, and advocate.
Build bridges within the Arctic and outward to global systems.
Not envisioned as a 'governance' body.

Past milestones



Proposed Task Team

Objectives

1. Lead the process to co-develop a proposal for a future pan-Arctic ocean observing alliance – objectives, functions, structure, GRA governance...
2. Ensure wide engagement of relevant rights holders and stakeholders in this process, including representatives of Arctic Indigenous and Local communities and organizations.
3. Prepare for the implementation of the proposed pan-Arctic ocean observing alliance that includes equitable partnerships with Arctic Indigenous Peoples.

Co-Chairs: Jari Haapala (FMI, Finland), Craig Lee (University of Washington, United States)

20+ Members from Europe, North America, Asia

Initial SWOT Analysis (2023)

Strengths (existing systems)

- Independence. Pursue observing activities according to national needs/priorities.
- Supports diverse activity – flexible, robust.
- Low coordination overhead.
- Effective for work focused on specific questions/hypotheses, accomplished in short, defined time period.

Weaknesses (existing systems)

- Challenged to coordinate and sustain over decadal (climate) timescales. Activity project-based, short term.
- Limited ability for global coordination/activity that spans national borders.
- Weak coordination with global observing networks and data structures, thus weak leveraging of these systems.
- Lack integrated vision of rightsholder/stakeholder needs.
- Lower visibility of challenges at global level – weak influence on UN and intergovernmental organizations outside Arctic.
- Insufficient and diffuse efforts to develop partnerships with Indigenous communities and organizations..

Opportunities (change)

- Coordinate and plan using long-term, stable platform that is part of broader global organizations.
- Align priorities, coordinate activities, communicate consistently.
- Connect to and extend existing global observing systems (e.g. GOOS, POGO, GEO, BluePlanet).
- Leverage existing frameworks and structures that support global ocean observing.
- Provide a center of action for Indigenous leadership and engagement in ocean observing.
- Stronger representation of Arctic in GOOS and other international bodies.
- UN Decade, support from G7 FSOI, upcoming IPY.
- Support, planning, funding follow established agency programs that enable other, established GRAs.

Threats (change)

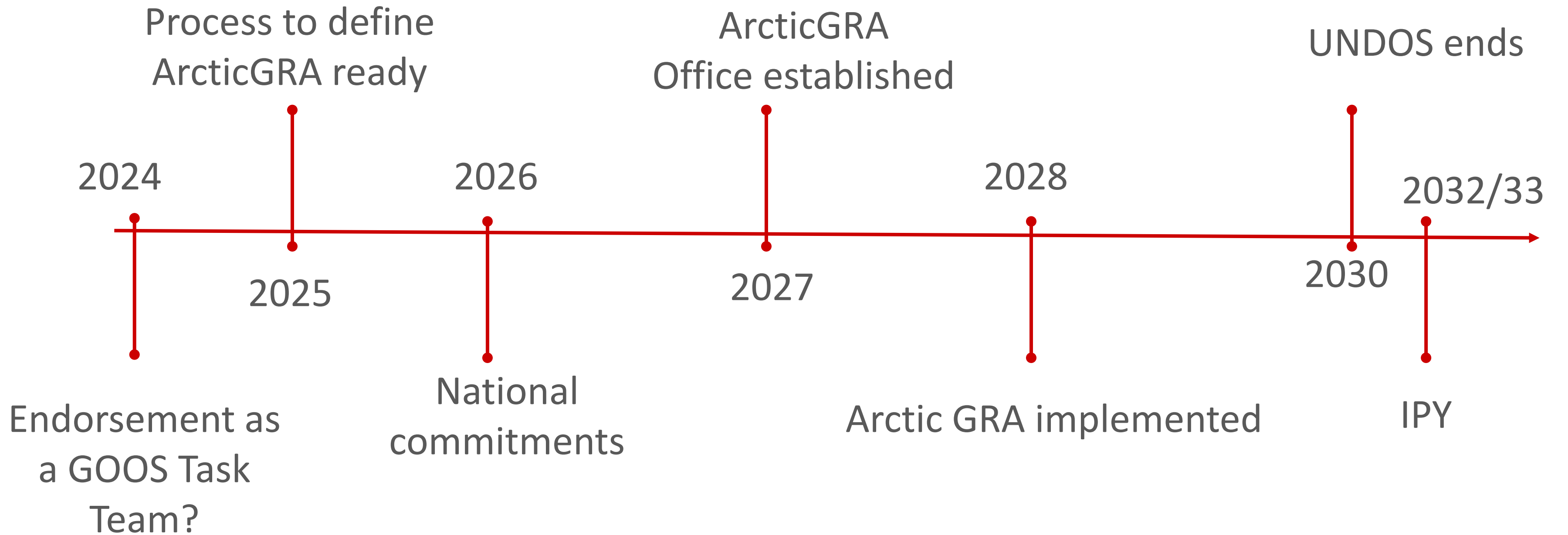
- Geopolitical climate and absence of Russian participation.
- Shifting support and growing cost of earth observing.
- Adding new coordinating body to existing (busy) landscape may increase complexity rather than reduce it.

Terms of Reference Actions

- Design an inclusive process for development of a pan-Arctic observing alliance.
- Consult with established GRAs for advice and guidance, especially concerning involvement of Indigenous and local communities.
- Explore opportunities for funding to support the task team's activity, especially engagement of indigenous colleagues.
- Seek resources for staff support for task team and eventual GRA operations.
- Host a briefing/information session from other GRAs with prominent involvement of Arctic Indigenous and Local communities.
- Inventory sustained Arctic sea ice and ocean observing activities, building on previous work.
- Report progress on these actions and development of GRA plans to SAON and the GOOS SC.

Initial period of activity will be April 2024 - October 2025, with possible extension if required.

Potential milestones



27-29 May 2024 



imdis

International conference on Marine Data and Information Systems

